### (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

## (19) World Intellectual Property Organization International Bureau



# Reco PCT/PTO 10 MAY 2005

(43) International Publication Date 10 June 2004 (10.06.2004)

**PCT** 

### (10) International Publication Number WO 2004/048353 A1

(51) International Patent Classification<sup>7</sup>:

C07D 301/12

(21) International Application Number:

PCT/EP2003/012506

(22) International Filing Date:

10 November 2003 (10.11.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

02.14207

12 November 2002 (12.11.2002) FR

- (71) Applicant (for all designated States except US): SOLVAY
  (SOCIETE ANONYME) [BE/BE]; Rue du Prince Albert,
  33, B-1050 BRUSSELS (BE).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): CATINAT, Jean-Pierre [BE/BE]; Rue de la Résistance, 93, B-7131 WAU-DREZ (BE). STREBELLE, Michel [BE/BE]; Rue Sombre, 84, B-1150 BRUSSELS (BE).
- (74) Agents: VANDE GUCHT, Anne et al.; SOLVAY (Société Anonyme), Intellectual Property Department, Rue de Ransbeek, 310, B-1120 BRUSSELS (BE).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

#### **Declarations under Rule 4.17:**

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, RG, RH, WPL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designation US
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designation US
- of inventorship (Rule 4.17(iv)) for US only

### Published:

with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PROCESS FOR THE MANUFACTURE OF 1,2-EPOXY-3-CHLOROPROPANE

(57) Abstract: Process for the manufacture of 1,2-epoxy-3-chloropropane by reaction between allyl chloride and hydrogen peroxide in the presence of a catalyst and in the possible presence of at least one solvent in an epoxidation medium comprising at least one liquid phase, in which process the pH of the liquid phase is controlled and maintained at a value of greater than or equal to 1.5 and less than 4.8.

